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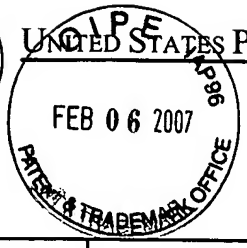

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,526	03/23/2004	Ilker Cengiz	MS307061.1	2509

27195 7590 02/02/2007

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EXAMINER	
DAYE, CHELCIE L	
ART UNIT	PAPER NUMBER
2161	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

OIPE
FEB 06 2007
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Office Action Summary	Application No.	Applicant(s)	
	10/806,526	CENGIZ ET AL.	
	Examiner	Art Unit	
	Chelcie Daye	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35 and 37-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35 and 37-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is issued in response to applicant's amendment filed December 11, 2006.

2. Claims 1-35 and 37-39 are presented. No claims added and claim 36 is cancelled.

3. Claims 1-35 and 37-39 are pending.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 13-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang (US Patent No. 6,907,433) filed August 1, 2001.

Regarding Claim 13, Wang discloses an object schema generation system comprising:

a code reader component adapted to read code from a program or set of programs (columns 9-10, lines 58-67 and 1-3, respectively, Wang);

an object schema generation component that retrieves or is provided with code from the code reader component and produces an object schema which provides metadata concerning objects to facilitate persistence of object data to a data store (column 5, lines 54-61 and column 6, lines 17-34, Wang), wherein the generated object schema is utilized together with a relational schema and a mapping schema to map object data to tables in the data store (columns 4-5, lines 66-67 and 1-16, respectively, Wang); and

wherein the mapping schema provides the mapping between the object schema and the relational schema (columns 4-5, lines 66-67 and 1-4, respectively, Wang), and the relational schema utilizes metadata associated with the data store to generate an implementation specific format that represents the data store structure (column 5, lines 17-29, Wang).

Regarding Claim 14, Wang discloses the system further comprising a data store information component adapted to provide the schema generation component with information concerning the data store (column 5, lines 17-29, Wang).

Regarding Claim 15, Wang discloses the system wherein the data store is a relational database (column 4, lines 58-59, Wang).

Regarding Claim 16, Wang discloses the system wherein the program is specified in an object-oriented language (column 5, lines 50-53, Wang).

Regarding Claim 17, Wang discloses the system wherein the program contains a plurality of object classes and fields (column 5, lines 17-29, Wang).

Regarding Claim 18, Wang discloses the system wherein the object schema is specified in an extensible markup language (column 5, lines 30-40, Wang).

Regarding Claim 19, Wang discloses the system wherein the object schema provides information concerning classes, members of classes, and their relationships (column 5, lines 5-16, Wang).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US Patent No. 6,907,433) filed August 1, 2001, in view of Koller (US Patent Application No. 20020103793) filed August 2, 2001.

Regarding Claim 20, Wang discloses all of the above claimed subject matter. However, Wang is silent with respect to utilizing rule-based artificial intelligence to produce the schema. On the other hand, Koller discloses utilizing rule based artificial intelligence to produce the schema ([0120], Koller). Wang and Koller are analogous art because they are from the same field of endeavor of relational models. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Koller's teachings into the Wang system. A skilled artisan would have been motivated to combine as suggested by Koller at [0011], in order to automatically construct a probabilistic relational model from a database and incorporating link uncertainty in order to uncover statistical dependencies.

Regarding Claim 21, the combination of Wang in view of Koller, disclose the system wherein the object schema generation component employs a Bayesian network to infer proper schema structures and relationships ([0262-266], Koller).

8. Claims 1-12,22-35, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wotring (US Patent No. 6,853,997) filed June 28, 2001, in view of Wang (US Patent No. 6,907,433) filed August 1, 2001.

Regarding Claims 1 and 22, Wotring discloses a computer executable data structure comprising:

a first data structure that describes one or more classes which define programmatic objects (Fig.1, item 100; column 6, lines 34-40, Wotring)[1];

a second data structure that describes members of each class (Fig.1; column 6, lines 39-46, Wotring)[2]; and

a third data structure that describes relationships between objects (Fig.9; column 46-56, Wotring). However, Wotring is silent with respect to providing information that can be utilized by a computer to persist object data to a database. On the other hand, Wang discloses providing information that can be utilized by a computer to persist object data to a database (column 5, lines 54-61, Wang). Wotring and Wang are analogous art because they are from the same field of endeavor of mapping objects and relational information. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Wang's teachings into the Wotring system. A skilled artisan would have been motivated to combine as suggested by Wang at column 1, lines 59-62, in order to allow object to relational mapping without providing back-reference or direct attributes in the target objects. As a result, alleviating the intrusiveness of the object design. Therefore, the combination of Wotring in view of Wang, disclose an object schema being generated and utilized together with a relational

[1] Examiner Notes: 'Person' corresponds to a class.
[2] Examiner Notes: 'Attributes' correspond to members.

schema and a mapping schema to map the programmatic objects to tables in the database (columns 4-5, lines 66-67 and 1-16, respectively, Wang); and

wherein the mapping schema provides the mapping between the object schema and the relational schema (columns 4-5, lines 66-67 and 1-4, respectively, Wang), and the relational schema utilizes metadata associated with the database to generate an implementation specific format that represents the database structure (column 5, lines 17-29, Wang).

Regarding Claims 2 and 27, the combination of Wotring in view of Wang, disclose the data structure wherein members of a class include fields and properties (column 7, lines 33-40, Wotring).

Regarding Claims 3 and 25, the combination of Wotring in view of Wang, disclose the data structure wherein a field includes a key attribute that defines whether the field is an object key (column 13, lines 53-58, Wotring).

Regarding Claim 4, the combination of Wotring in view of Wang, disclose the data structure wherein the properties include a path attribute that delimits the context of a class (columns 6-7, lines 64-67 and 1-17, respectively, and column 9, lines 50-53, Wotring).

Regarding Claims 5 and 26, the combination of Wotring in view of Wang, disclose the data structure wherein the member properties include an alias attribute to identify a public member that is to be utilized in place of a private member (column 4,lines 30-36, Wang).

Regarding Claims 6 and 28, the combination of Wotring in view of Wang, disclose the data structure wherein the members are compound members comprising members and other compound members (Fig.1; column 6, lines 45-52, Wotring).

Regarding Claims 7 and 29, the combination of Wotring in view of Wang, disclose the data structure wherein the compound member is an array (Fig.2; column 7, lines 48-50, Wotring).

Regarding Claim 8, the combination of Wotring in view of Wang, disclose the data structure wherein the compound member includes a type attribute that defines the type of data identified by the compound member (Fig.4B, item 409; columns 9-10, lines 54-67 and 1-4, respectively, Wotring).

Regarding Claim 9, the combination of Wotring in view of Wang, disclose the data structure wherein the third structure includes a type attribute that defines relationships between objects (column 9, lines 14-22, Wotring).

Regarding Claims 10 and 30, the combination of Wotring in view of Wang, disclose the data structure wherein the relationship is one of one-to-one, one-to-many, or many-to-many (columns 5-6, lines 62-67 and 1-2, respectively, Wang).

Regarding Claims 11 and 24, the combination of Wotring in view of Wang, disclose the data structure wherein the database is a relational database (column 2, lines 63-66, Wotring).

Regarding Claim 12, the combination of Wotring in view of Wang, disclose the data structure wherein the first, second and third data structures are XML structures (column 3, lines 34-34-39, Wotring).

Regarding Claim 23, the combination of Wotring in view of Wang, disclose the method wherein the classes represent objects defined by an object-oriented language (column 5, lines 50-53, Wang).

Regarding Claim 31, the combination of Wotring in view of Wang, disclose the method wherein specifying class relationships comprise specifying a parent class and a child class (column 5, lines 30-40, Wang).

Regarding Claim 32, the combination of Wotring in view of Wang, disclose the method further comprising specifying child members associated with the parent and child classes (column 6, lines 45-48, Wotring).

Regarding Claim 33, the combination of Wotring in view of Wang, disclose a computer readable medium having stored thereon computer executable instructions for carrying out the method (column 9, lines 58-67, Wang).

Regarding Claim 34, the combination of Wotring in view of Wang, disclose a method for generating an object schema comprising:

receiving program code defining objects (column 5, lines 47-53, Wang);

receiving input from a developer (column 2, lines 54-62, Wotring);

generating an object schema to be employed to facilitate mapping object components from an object oriented program to tables in a relational database (column 5, lines 5-16, Wang), wherein the generated object schema is utilized together with a relational schema and a mapping schema to map the programmatic objects to tables in the database (columns 4-5, lines 66-67 and 1-16, respectively, Wang); and

wherein the mapping schema provides the mapping between the object schema and the relational schema (columns 4-5, lines 66-67 and 1-4, respectively, Wang), and the relational schema utilizes metadata associated with

the database to generate an implementation specific format that represents the database structure (column 5, lines 17-29, Wang).

Regarding Claim 35, the combination of Wotring in view of Wang, disclose the method wherein the developer provides input via a graphical user interface (column 3, lines 7-10, Wotring).

Regarding Claim 37, the combination of Wotring in view of Wang, disclose the method wherein the schema is an XML schema (column 3, lines 34-39, Wotring).

Regarding Claim 38, the combination of Wotring in view of Wang, disclose the method wherein receiving input from a developer comprises identifying classes to be persisted and specifying relations amongst classes (column 5, lines 54-61, Wang).

Regarding Claim 39, the combination of Wotring in view of Wang, disclose a computer readable medium having stored thereon computer executable instructions for carrying out the method (column 9, lines 58-67, Wang).

Response to Arguments

Applicant's arguments with respect to newly amended independent claims 1,13,22, and 34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

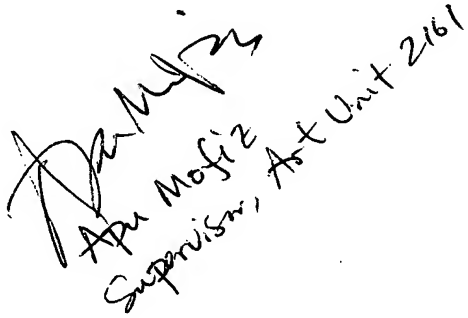
Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chelcie Daye whose telephone number is 571-272-3891. The examiner can normally be reached on M-F, 7:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chelcie Daye
Patent Examiner
Technology Center 2100
January 23, 2007



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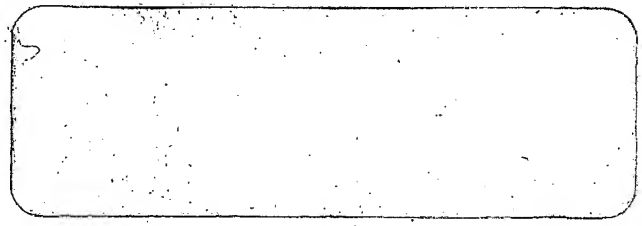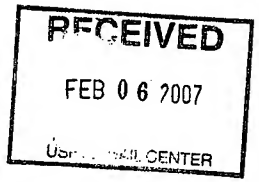
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